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(71) Applicants (for all designated States except US):
**AGENCY FOR SCIENCE, TECHNOLOGY AND RE-
SEARCH** [SG/SG]; 20 Biopolis Way, #07-01, Centros,
Singapore 138668 (SG). **NATIONAL UNIVERSITY
OF SINGAPORE** [SG/SG]; 10 Kent Ridge Crescent,
Singapore 119260 (SG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KHATIB, Oussama**

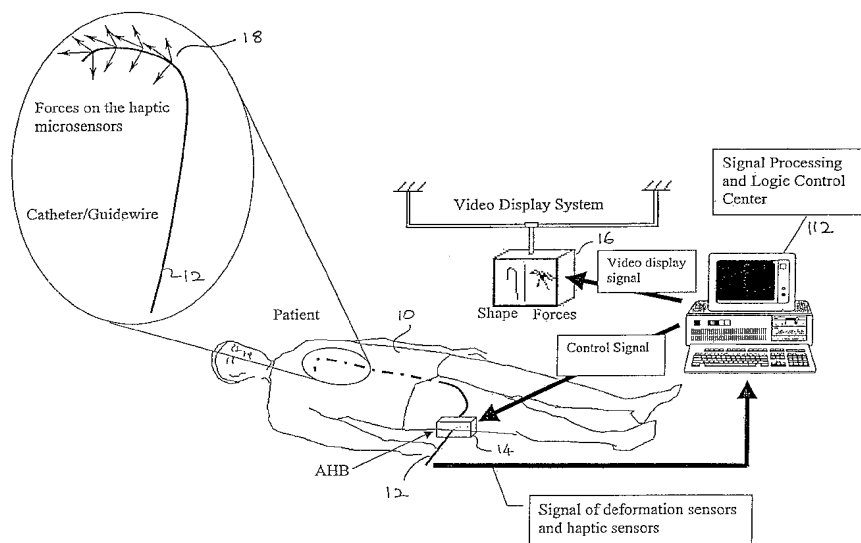
[US/US]; 616 Forest Ave., Palo Alto, CA 94301 (US).
MA, Xin [CN/SG]; Blk 702 West Coast Road, #11-371,
Singapore 120702 (SG). **NOWINSKI, Wieslaw, Lucjan**
[PL/SG]; 111 Clementi Road #10-06, NUS Kent Vale, Blk
C, Singapore 129792 (SG). **ANG, Marcelo Jr Huibonhoa**
[PH/SG]; Block 1E, Gilman Height #17-42, Singapore
104001 (SG). **CHUI, Chee Kong** [SG/SG]; Block 325
Yishun Central #12-373, Singapore 760325 (SG). **LI, Zi
Rui** [CN/SG]; Blk 6 Holland Close #12-16, Singapore
271006 (SG).

(74) Agent: **POH, Chee Kian, Daniel**; Lloyd Wise, Tanjong
Pagar, P.O. Box 636, Singapore 910816 (SG).

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(54) Title: APPARATUS FOR MEDICAL AND/OR SIMULATION PROCEDURES



(57) Abstract: In a preferred embodiment, medical apparatus comprising a catheter (12) which operable to be inserted into a human subject (10) is disclosed herein. Haptic sensors (22, 24) and deformation sensors (26, 27) are connected to the catheter (12) and these are disposed at a plurality of locations along the length of the catheter (12). The haptic sensors measures 3D forces (18) acting on the catheter (12) at the disposed locations and these forces are provided to a haptic feedback device (14) which provides haptic feedback to, an interventional radiologist. The deformation sensors (26, 27) on the other hand, measures the deformation of the catheter (12) at the disposed locations and this information determines the shape of the catheter (12) which is represented on a display (16) for viewing by the radiologist.

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